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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/692,755

10/27/2003

Rusi P. Taleyarkhan

S-96,722

8847

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7590

06/21/2005

UNITED STATES DEPARTMENT OF ENERGY
1000 INDEPENDENCE AVENUE, S.W.
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WASHINGTON, DC 20585-0162

EXAMINER

PALABRICA, RICARDO J

ART UNIT

PAPER NUMBER

3641

DATE MAILED: 06/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/692,755

Applicant(s)

TALEYARKHAN ET AL.

Examiner

Rick Palabrica

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-33 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-21, drawn to an **apparatus** (reactor, electric power plant and projectile launcher), classified in class 376, subclass 100.
 - II. Claims 22-33, drawn to a **process** (producing nuclear fusion), classified in class 376, subclass 149.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the apparatus can be used to practice another and materially different process such as for joule heating or for light production rather than for nuclear fusion.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

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2. Applicant is advised that the reply to this invention election requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

3. If invention I is elected, Applicant is required under 35 U.S.C. 121 to elect one of the following disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 1 is generic to Group I and claim 22 is generic to Group II.

- A: Wherein the structure for placing the liquid under tension comprises at least one centrifugal source (e.g. see claim 5).
- B: Wherein the structure for placing the liquid under tension comprises at least one magnetorestrictive source (e.g. see claim 6).
- C: Wherein the structure for placing the liquid under tension comprises at least one piezoelectric source (e.g. see claim 7).

4. If invention I is elected, Applicant is further required under 35 U.S.C. 121 to elect a single species of the nuclear source from among the Markush group of sources disclosed, for purposes of examination. For example, Applicant may elect alpha emitters alone, or neutron sources alone. This additional requirement is to facilitate examining due to the broad range of sources disclosed as suitable (e.g., see claim 10).

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5. If invention I is elected, Applicant is further required under 35 U.S.C. 121 to elect a single species of the particle emitted from the fusion reaction from among the Markush group of particles disclosed, for purposes of examination. For example, Applicant may elect tritium alone or neutrons alone. This additional requirement is to facilitate examining due to the diverse particles disclosed as suitable (e.g., see claim 18).

6. If invention I is elected, Applicant is required under 35 U.S.C. 121 to elect one of the following disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 1 is generic to Group I and claim 22 is generic to Group II.

- D: Wherein the apparatus is an electrical power plant (e.g. see claim 20).
- E: Wherein the apparatus is a projectile launcher (e.g. see claim 21).

7. If invention II is elected, Applicant is required under 35 U.S.C. 121 to elect one of the following disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable (e.g., see claim 23).

Currently, claim 1 is generic to Group I and claim 22 is generic to Group II.

- F: Wherein the fusion reaction is a D-D reaction.
- G: Wherein the fusion reaction is a D-T reaction

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8. If invention II is elected, Applicant is required under 35 U.S.C. 121 to elect one of the following disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 1 is generic to Group I and claim 22 is generic to Group II.

- H: Wherein a centrifugal force is used for tensioning (e.g., see claim 26).
- I: Wherein an acoustical wave source is used for tensioning (e.g., see claim 27).

9. Applicant is advised that a reply to this species election requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over

the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

10. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick Palabrica whose telephone number is 571-272-6880. The examiner can normally be reached on 6:30-5:00, Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the

Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "R. Paley". The signature is written in a cursive, flowing style.

RJP
June 15, 2005